

Single institution experience with lateral abdominal wall hernias

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INTRODUCTION

Lateral abdominal wall hernias (LAWH) are uncommon and their repair is frequently technically challenging, with relatively few cases described in the literature. As a result, management strategies and surgical indications are often extrapolated from principles established for ventral hernia repair [1]. Subtypes of LAWH include Spigelian hernias located adjacent to the linea semilunaris, lumbar hernias (including Grynfeltt, Petit, and diffuse variants), and flank hernias [2]. In this descriptive study, we present single-institution data characterizing patients with LAWH.

SUMMARY STATISTICS

Table 1. Baseline Patient and Hernia Characteristics (N = 16)

Age, years	61 ± 15.4
Female sex, n (%)	8 (50)
Native American, n (%)	4 (25)
BMI, kg/m ²	30.5 ± 4.7
ASA class II, n (%)	6 (37.5)
ASA class III, n (%)	10 (62.5)
Prior mesh repair (recurrent), n (%)	6 (37.5)
Incisional etiology, n (%)	12 (75)
De novo etiology, n (%)	2 (12.5)
Traumatic etiology, n (%)	2 (12.5)
Spigelian location, n (%)	7 (43.8)
Flank location, n (%)	7 (43.8)
Lumbar location, n (%)	2 (12.5)
Robotic approach, n (%)	10 (62.5)
Open approach, n (%)	6 (37.5)
Defect size range, cm ²	3–266
Mean defect size (de novo), cm ²	3
Mean defect size (traumatic), cm ²	64.8
Mean defect size (incisional), cm ²	89.0
Mean defect length by width, cm	7.08 ± 5.67 by 7.27 ± 3.91
Mean mesh length by width, cm	16.73 ± 5.04 by 15.87 ± 3.72
Mesh to defect ratio	6.18 ± 4.27
Retromuscular, n (%)	14 (87.5%)
Intraperitoneal, n (%)	1 (5.9%)
Inlay, n (%)	1 (5.9%)

Table 2. Postoperative Outcomes

Length of stay, days	2
90-day readmission, n (%)	0 (0)
Recurrence within 3 months, n (%)	1 (6)
Follow-up, years	1.49 ± 1.01

Values are presented as mean ± standard deviation or n (%). BMI = body mass index; ASA = American Society of Anesthesiologists.

RESULTS

Review of patient demographics demonstrated a high proportion of Native American patients, reflecting our unique population. Recurrent hernias after prior mesh repair accounted for 37.5% of operations. Most cases involved an incisional etiology, primarily in the Spigelian or flank location. Repair was performed robotically in 62.5% and open in 37.5%. Defect size ranged from 3 to 266 cm², with mean areas of 3 cm² (de novo), 64.8 cm² (traumatic), and 89.0 cm² (incisional). Hernia contents included bladder, colon, omentum, appendix, and small bowel. Mean length of stay was 2 days, with no 90-day readmissions. One recurrence (6%) occurred within 3 months following robotic TAPP repair of a 176 cm² incisional flank hernia. Mean follow-up was 1.49 ± 1.01 years.

CONCLUSION

LAWH remain rare and heterogeneous, with limited data guiding management of large or complex defects. In this series, most disease burden involved incisional and recurrent hernias. Robotic repair was utilized in the majority of cases and was associated with short hospitalization and low early morbidity. Although follow-up was limited, tailored operative strategies—including minimally invasive techniques—appear safe, warranting further multi-institutional study to define optimal surgical strategy and long-term durability of repair.

References

[1] Muysoms, F. E., Miserez, M., Berrevoet, F., Campanelli, G., Champault, G. G., Chelala, E., ... & Kingsnorth, A. (2009). Classification of primary and incisional abdominal wall hernias. *hernia*, 13(4), 407-414.

[2] Armstrong, O., Hamel, A., Grignon, B., NDoye, J. M., Hamel, O., Robert, R., & Rogez, J. M. (2008). Lumbar hernia: anatomical basis and clinical aspects. *Surgical and radiologic anatomy*, 30(7), 533-537.



Figure 1. Computed tomography imaging demonstrating large Spigelian hernia containing bowel and omentum

METHODS AND PROCEDURES

The electronic health records of 16 patients who underwent operative repair of lateral abdominal wall hernias (LAWH) at the University of New Mexico Hospital in Albuquerque, New Mexico, between April 2022 and November 2025 were retrospectively reviewed. For de novo Spigelian hernias, only defects measuring ≥3 cm were included. Summary statistics were generated for patient demographics, hernia characteristics, and relevant clinical variables.